

State of Oregon
Department of Environmental Quality

Memorandum

Date: October 7, 2016

To: Eva DeMaria, EPA Region 10 Remedial Project Manager
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From: Alex Liverman, DEQ Portland Harbor Stormwater Coordinator
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Through: Keith Johnson, DEQ NWR Cleanup Manager

Subject: EPA September 19, 2016 Memo on comments on Fred Devine draft Source Control Decision

DEQ has been implementing source control at upland sites in Portland Harbor since the 1980s and under the 2005 EPA/DEQ Joint Source Control Strategy (JSCS) for more than a decade. It is important to appreciate that DEQ is now bringing to closure sites where site-specific characterization strategies, performance monitoring and other agreements predate development of the JSCS, the stormwater framework and guidance, and the final PRGs. Consequently, elements of the site work may not always be consistent with current site characterization protocols and this adds an element of uncertainty to some of the proposed DEQ source control decisions. In light of this, DEQ carefully considers the level of uncertainty and the potential need to conduct additional site work to support a final source control decision prior to submitting the draft decision to EPA.

DEQ provides the following observations and responses to EPA comments in an effort to continue to improve our coordination, enhance understanding of the program by EPA and provide clear documentation of decisions to the parties responsible for remediating these upland sites, as we work to complete decisions on approximately 60 remaining sites prior to implementation of EPA's in-water remedy.

General Comment Responses

The final paragraph of the opening remarks in EPA's comment memo incorrectly states that the majority of site stormwater infiltrates. Rather, the text and figures of the draft Source Control Decision (SCD) indicate that the majority of the site is paved, except for a small gravel area, which infiltrates. The EPA Site Status Summary Table also incorrectly notes that stormwater samples were not analyzed for total PCBs. Stormwater samples from five storm events (2007 – 2009) were in fact analyzed for PCB Aroclors.

The final statement of the opening remarks is confusing in that it states agreement with DEQ's SCD, but recommends additional monitoring. The Site Status Summary Table also indicates that additional stormwater monitoring is needed. It is unclear to DEQ if EPA requires additional stormwater monitoring to be performed in order for EPA to support DEQ's source control decision. DEQ requests that EPA clarify whether EPA will require additional monitoring and, if so, under what authority, for how many events, to what purpose and under what mechanism of review and approval.

Further, DEQ requests that EPA include only actionable comments as Primary Comments, with a clear path for addressing them toward EPA concurrence with the decision. For example, Primary Comments 1, 2 and 3 restate information presented in the draft SCD and make no request for action that would allow EPA to concur with the decision. These statements are very confusing for responsible parties, who are left wondering whether DEQ's decision will be supported or challenged by EPA down the road. If EPA concurs (as the final paragraph of the

opening remarks appears to indicate), there is no need for Primary Comments. To Be Considered Comments can be included with a concurrence letter. However, DEQ encourages EPA to weigh the utility of preparing and submitting non-actionable comments against the limited resources allotted to Source Control oversight, in consideration of the priority/level of threat to the river a site poses. Concurrence with a draft SCD without comments is an efficient potential outcome, particularly for sites that EPA and DEQ consider to be low priority or de minimis.

DEQ restates EPA comments below in italics, followed by DEQ responses for EPA consideration.

Primary Comments and DEQ Responses

- 1. Individual polycyclic aromatic hydrocarbons (PAHs) and metals were detected in stormwater solids (samples collected in 2002 and 2010) at concentrations exceeding preliminary remediation goals (PRGs) established in the Portland Harbor feasibility study (FS) for the sediment pathway based upon remedial action objective (RAO) 9. Although total PCBs were not detected, the laboratory reporting limit exceed the PRG by six to 55 times. Ongoing BMPs are recommended to prevent PAHs and metals from migrating to the Willamette River at concentrations that pose a risk to human health or the environment.*

As noted in DEQ's Guidance for Evaluating the Stormwater Pathway at Upland Sites, characterization of stormwater solids helps target contaminants of concern in stormwater and trace source at upland sites. Importantly, Section 5 of the guidance acknowledges that, because solids removed from catch basins and lines are not transported to the river, solids analytical results are not relied on as an indicator of stormwater quality discharging to the river. As recommended in DEQ's guidance and discussed in the draft SCD, solids data is used in a 'lines of evidence' evaluation and not as a decision factor on their own. For instance, the absence of a specific contaminant from catch basin solids may allow it to be removed from the list for stormwater sampling and analysis, although PCBs and phthalates are typically retained in acknowledgement of their ubiquity and being drivers of EPA's cleanup. If the detected contaminants in the catch basin solids are in the flat part or knee of the rank-order curves, it is a strong line of evidence that there is not an uncontrolled stormwater source of those contaminants at the site. Conversely, catch basin solids detections that are in the high range of the curve may indicate a need for source tracing, but if stormwater detections of that contaminant are in the flat part of the curve, the transport pathway is not of concern.

Comparison of catch basin solids data to PRGs associated with RAO 9 is inappropriate. As noted above, these solids are removed from catch basins designed to trap them, such that they are not transported to the river. In addition, the PRGs for RAO 9 were derived from in-stream sediment values, which are not appropriate for comparison to solids that have been concentrated into a trapping device from surface runoff.

Laboratory reporting limits for a number of constituents (PCBs, PAHs, pesticides, dioxins/furans, phthalates) are frequently above EPA's PRGs, in both solids and water. This is not only due to frequent matrix interferences of co-located organic contaminants, but also due to the inability of existing equipment and methodologies to attain limits comparable to the very conservative PRGs. As a matter of practice, DEQ encourages cleanup procedures prior to dilution, but must also accept the best available analyses of local and national laboratories. Interpretation of such data and comparison against some immeasurable PRGs is a persistent challenge faced by DEQ and responsible parties and their consultants throughout the source control process, as it relates to demonstration of control sufficient to protect the eventual in-water remedy. In this case, the detection limit of 50 ug/kg from the 2010 catch basin data falls within the flat part of the solids rank-order curve, which is sufficient as a line of evidence that there are no uncontrolled stormwater PCB sources.

On-going BMPs are proposed, as described in the draft SCD. Therefore, there is no need for EPA to recommend non-specific BMPs.

2. *The August 2016 SCD states that management of stormwater discharges includes capture of stormwater sediments in catch basins equipped with filter inserts. Based on the detections of stormwater sediment PAHs and metals concentrations above RAO 9 PRGs, these source control measures should be regularly inspected and maintained to adequately retain stormwater sediments onsite and prevent recontamination of the in-water sediment remedy.*

Maintenance of sediment trapping BMPs is always necessary and not triggered or increased in response to detections of contaminants (including PAHs and metals) in solids at any concentration. Regular maintenance of sediment trapping and other site BMPs is noted in the draft SCD and, therefore, EPA's recommendation is unnecessary.

3. *Stormwater sampling conducted in 2007, 2008 and 2009 showed total copper, total lead, total zinc, bis(2-ethylhexyl) phthalate (BEHP), and other PAHs above PRGs and/or SLVs. EPA concurs with DEQ's observation that "nearly all detections were below the flat part of the rank-order curves for those metals, bis(2-ethylhexyl)phthalate or total PAHs. One sample in 2007 had total PAHs in the low knee of the curve and one sample in 2009 had zinc in the knee of the curve." Although the concentrations are generally at the low end of the rank-order curves, the PRGs exceedances indicate the need for ongoing monitoring.*

Because source control can be a complicated, multi-pathway, iterative process, the Joint Source Control Strategy put forward a multiple lines of evidence evaluation process that can be tailored to individual site conditions. This comment appears to follow the multiple lines of evidence evaluation, as presented in the draft SCD. However, the last statement ignores the JSCS approach and reverts to a comparison to a single line of evidence, the recently established PRGs. Further, if EPA disagrees with DEQ's evaluation and decision, it is incumbent on EPA to discuss with DEQ what additional characterization or source controls may be needed. It is doubtful that 'additional monitoring' will ever result in concentrations at the point of discharge being below the PRGs, particularly if no additional source control measures are applied. Finally, the requirement for additional monitoring is inconsistent with most previous stormwater source control decisions, as stormwater contaminant concentrations rarely are below the JSCS SLVs or PRGs, which is why DEQ developed the rank-order curves and the JSCS requires multiple lines of evidence.

4. *EPA recommends continued stormwater sampling, following DEQ's JSCS guidance, followed by a SCM effectiveness evaluation before issuance of an SCD. The data generated is intended to provide for a defensible decision that control of potential stormwater sources have been demonstrated. The 2007 and 2008 stormwater sampling did not comply with the Portland Harbor Joint Source Control Strategy (JSCS) guidelines, and therefore, data generated from these events may not be sufficient for determining whether the stormwater pathway is a current or future contamination source to the Willamette River. The JSCS guidance (Section D.5) states that a minimum of four storms be sampled for screening purposes. Of these four stormwater sampling events, the JSCS recommends that two be representative of "first flush" conditions (i.e. within the first 30 minutes of stormwater discharge) and the other two events should be collected within the first three hours of stormwater discharge. From the hydrographs in the stormwater reports and the description of stormwater sampling in the text, it appears that stormwater sampling did not occur within the first three hours of stormwater discharge. Pollutant concentrations can vary significantly over the course of a stormwater runoff event, and the data collected may not be representative of typical stormwater discharges leaving the site. The stormwater samples from 2007 and 2008 were collected 3 to 18.5 hours after the onset of precipitation, and stormwater sample collection in 2009 did not include an adequate antecedent dry period. The analyte suite should include PCBs with a laboratory reporting limit that can allow for comparison to PRGs established for RAOs 3 and 7 in the Portland Harbor FS.*

DEQ's evaluation presented in the draft SCD includes characterization of site solids and stormwater, which led to a determination that improved best management practices for stormwater at the site are adequate, without a need

for additional SCMs and associated effectiveness monitoring. This approach is in line with Appendix D of the JSCS and also basically follows the DEQ guidance, despite occurring before the guidance was first published in 2009. EPA's comment that guidance was not followed is ineffectual, because the guidance referenced was not in existence at the time of the investigation. As reflected in the site's Source Control Evaluation Report, the site strove to meet elements of the proposed guidance, as communicated by DEQ to the site during the investigation. In alignment with the future guidance, excursions from the protocols were explained in the report. While excursions may weaken the line of evidence, in practice they must be accepted.

While DEQ acknowledges that site information is imperfect, multiple lines of evidence were presented to adequately support the decision at this low priority, limited discharge site. DEQ contends that, whether or not guidance protocols are strictly met, is not a sound basis for rejecting a decision. Instead, each evaluation must be weighed on its individual merits, in consideration of the magnitude of threat presented by potential site sources with complete pathways to the river and within the context of the larger geographic area. In this case, there is a complete lack of historical use or release of hazardous materials at the site. There is no 'source' to control and further monitoring is unlikely to point to any useful action to be taken in response. Additionally, contaminants detected in site stormwater are not of significance in relation to those driving the cleanup in the Swan Island sediment decision unit. Finally, the City's outfall investigation work found very high concentrations of PAHs in the conveyance system from a site across the lagoon, which has since been controlled and was the likely source of elevated PAHs in the Lagoon SDU. DEQ requests that EPA review proffered source control decisions within the larger context of the geographic regions and study area, and with consciousness of the jointly agreed to prioritization of upland sites.

As discussed in the DEQ response to Primary Comment #1 above, the request that future stormwater monitoring include PCBs with laboratory reporting limits that can allow for comparison to PRGs established for RAOs 3 and 7 is not possible with standard sampling and analytical protocols. DEQ requests that before including this comment, EPA carefully consider their position. DEQ's human health water quality criterion for PCBs was approved by EPA and aligns with EPA's national criterion as total PCBs determined as either the sum of Aroclors or congeners. Attached for reference is a 2014 internal DEQ Water Quality Program memo, which outlines issues associated with meeting the criteria, and a 2005 EPA guidance memorandum on water quality based effluent limits set below analytical detection/quantitation limits. DEQ uses PCB Aroclors for stormwater permit monitoring and source control characterization, unless there are site specific considerations that warrant PCB congener testing.